UNITED STATES NAVAL OBSERVATORY

CIRCULAR NO. 38

U. S. Naval Observatory, Washington 25, D. C. December 1, 1952

SOLAR SUMMARY FOR 1951

The solar circulars which give the daily results of sunspot measures made at the U. S. Naval Observatory have been printed with the aid of punched cards since January, 1950. These cards have also been used to compile the Summary for 1951.

Table I gives the mean values of A, g, s, and r for each month and for the year.

Table II gives the same quantities for each day.

Table IIIa summarizes for each day the results for each group which was numbered at Mount Wilson. The first line contains the group number. The other lines list, for the entire group, in successive columns:

1. Date of observation: the month, day, and decimal of a day in U. T.
2. The mean heliographic longitude, L.
3. The mean heliographic latitude, φ.
4. The total area, A.
5. The total spot count, s.
6. The number of parts, p, which were listed separately in the monthly circulars.

The quantities L and φ are the unweighted means of the several parts. Hence, the appearance or disappearance of a small spot may affect the day-to-day values of L and φ. Similarly, these may be apparent changes in these quantities when the group is near the limb and the measures are uncertain.

An entry for January at the end of the table refers to 1952.

Table IIIb gives similar data for the unnumbered groups, that is, those marked by an asterisk in the monthly circulars. These groups generally consisted of a small spot which appeared on one day.

Table IV lists groups which may be recurrent. The data are derived from the Mount Wilson results given in the *Publications of the Astronomical Society of the Pacific*, which should be consulted for details of the recurrences.

In compiling this summary a number of discrepancies in the monthly circulars were found. The corrected results are given here and the errata to the monthly circulars are given at the end of this circular.

TABLE I

	A	*g*	*s*	*r*
JANUARY	737	3.6	27	63
FEBRUARY	737	4.2	28	70
MARCH	943	3.7	18	55
APRIL	1611	4.9	45	94
MAY	2887	6.7	41	108
JUNE	2425	5.0	38	88
JULY	866	4.7	33	80
AUGUST	812	4.2	30	72
SEPTEMBER	1133	5.3	35	88
OCTOBER	870	4.0	22	62
NOVEMBER	812	4.6	18	64
DECEMBER	644	2.7	16	43
MEAN	1206	4.5	29	74

TABLE II

Date	*A*	*g*	*s*	*r*
JANUARY				
1	121	2	3	23
2	170	1	3	13
3	242	1	8	18
4	366	4	43	83
5	496	2	19	39
6	800	4	47	87
7	672	3	38	68
8	664	3	28	58
9	617	5	28	78
10	526	2	6	26
11	654	3	13	43
12	122	1	2	12
13	97	1	4	14
14	76	2	9	29
15	120	2	8	28
16	194	1	13	23
17	374	2	17	37
18	424	3	15	45
19	399	4	32	72
20	303	3	13	43
21	240	4	38	78
22	633	7	20	90
23	1100	9	37	127
24	1539	6	33	93
25	1672	5	19	69
26	2144	6	64	124
27	2023	7	58	128
28	2392	6	60	120
31	2179	6	108	168
FEBRUARY				
1	1917	8	88	168
2	1842	5	36	86
3	1114	3	26	56
4	331	5	47	97
5	221	5	17	67
6	149	3	6	36
7	354	7	17	87
8	386	6	12	72
9	569	6	28	88
10	1106	8	31	111
11	716	6	20	80
12	932	6	33	93
13	581	5	12	62
14	567	6	34	94
15	398	6	18	78
16	387	4	6	46
17	278	3	9	39
18	312	4	10	50
19	824	2	7	27
20	815	2	38	58
21	742	3	37	67
22	823	2	8	28
23	762	1	60	70
24	993	1	30	40
25	1042	2	55	75
26	968	2	47	67
27	764	2	24	44
28	737	5	40	90

Date	*A*	*g*	*s*	*r*
MARCH				
2	569	3	39	69
3	290	2	11	31
4	192	3	22	52
5	192	2	18	38
6	485	4	14	54
7	452	4	14	54
8	302	2	5	25
9	290	2	7	27
10	290	2	10	30
11	521	2	26	46
12	558	3	10	40
13	520	2	6	26
14	440	2	8	28
15	340	2	5	25
16	969	3	4	34
17	1030	3	4	34
18	1078	3	5	35
19	1163	3	10	40
20	1191	4	10	50
21	1252	5	7	57
22	1743	7	28	98
23	2193	6	20	80
24	2510	7	54	124
25	2385	6	34	94
26	2357	7	48	118
27	2289	7	36	106
28	1611	5	17	67
29	500	4	13	53
30	311	3	19	49
31	278	3	20	50
APRIL				
1	222	4	26	66
2	210	3	10	40
3	182	2	2	22
4	133	2	6	26
5	339	3	17	47
6	520	5	24	74
7	677	6	31	91
8	1015	6	50	110
9	1101	6	32	92
10	1089	6	37	97
11	859	8	55	135
12	1747	7	61	131
13	2380	5	41	91
14	2800	5	45	95
15	2338	4	32	72
16	2133	2	18	38
17	2205	3	38	68
18	2697	4	62	102
19	2786	4	124	164
20	2521	6	78	138
21	2535	8	75	155
22	2435	7	141	211
23	2652	5	67	117
24	2214	6	82	142
25	1478	4	48	88
26	1624	5	53	103
27	1840	6	39	99
28	1726	5	29	79
29	2017	6	15	75
30	1842	5	15	65

TABLE II

Date	*A*	*g*	*s*	*r*
MAY				
1	1139	6	16	76
2	914	5	15	65
3	527	4	8	48
4	364	4	20	60
5	188	2	10	30
6	339	2	15	35
7	484	6	13	73
8	254	3	3	33
9	1127	2	5	25
10	3000	6	23	83
11	3670	7	46	116
12	3692	8	54	134
13	4592	8	74	154
14	4526	10	43	143
15	5018	10	68	168
16	5504	10	99	199
17	5501	11	86	196
18	5692	12	92	212
19	6282	11	76	186
20	6015	10	119	219
21	6471	9	52	142
22	3278	9	54	144
23	2861	7	46	116
24	2803	6	71	131
25	3187	7	40	110
26	3314	8	20	100
27	3193	7	25	95
28	2651	7	49	119
29	987	3	8	38
30	969	4	12	52
31	963	5	7	57
JUNE				
1	933	3	7	37
2	953	3	5	35
3	388	1	1	11
4	557	3	4	34
5	2048	6	46	106
6	2846	6	63	123
7	3356	6	72	132
8	3161	6	53	113
9	3694	6	64	124
10	3308	6	73	133
11	2678	5	49	99
12	4193	7	48	118
13	4353	7	123	193
14	3872	6	60	120
15	3606	6	98	158
16	3610	7	53	123
17	4325	6	26	86
18	3647	6	29	89
19	3513	5	43	93
20	3349	5	48	98
21	3563	6	32	92
22	3600	6	45	105
23	3295	5	32	82
24	1649	5	13	63
25	679	3	8	38
26	587	4	12	52
27	391	5	11	61
28	241	4	6	46
29	218	2	2	22
30	145	3	5	35

Date	*A*	*g*	*s*	*r*
JULY				
1	133	2	7	27
2	181	4	5	45
3	294	4	12	52
4	393	3	11	41
5	423	3	17	47
6	914	7	48	118
7	1297	8	57	137
8	2034	8	28	108
9	2097	7	57	127
10	2143	7	43	113
11	1793	5	73	123
12	1568	4	69	109
13	1453	5	54	104
14	1307	6	72	132
15	1324	5	102	152
16	1018	3	19	49
17	1188	4	25	65
18	1236	3	12	42
19	1017	4	9	49
20	436	3	7	37
21	254	2	5	25
22	593	3	9	39
23	518	7	70	140
24	497	6	25	85
25	440	4	60	100
26	285	4	41	81
27	254	5	25	75
28	438	7	23	93
29	526	4	15	55
30	465	6	10	70
31	326	4	27	67
AUGUST				
1	436	4	36	76
2	401	7	24	94
3	745	5	14	64
4	1039	6	37	97
5	1067	5	27	77
6	1283	5	31	81
7	1611	6	56	116
8	1739	5	94	144
9	2108	5	108	158
10	1865	5	50	100
11	1781	5	43	93
12	1580	7	49	119
13	1327	6	49	109
14	1193	5	32	82
15	1035	6	26	86
16	750	6	22	82
17	424	3	23	53
18	414	4	34	74
19	568	5	27	77
20	379	4	32	72
21	411	4	12	52
22	351	4	26	66
23	339	4	14	54
24	216	3	8	38
25	194	1	1	11
26	48	1	1	11
27	12	1	1	11
29	0	0	0	0
30	412	2	2	22
31	630	2	7	27

TABLE II

Date	*A*	*g*	*s*	*r*
SEPTEMBER				
1	448	3	7	37
2	492	3	10	40
3	1033	4	11	51
4	836	3	14	44
5	1006	3	24	54
6	1115	5	38	88
7	732	5	22	72
8	1064	8	23	103
9	1733	7	25	95
10	2054	7	35	105
11	1986	8	26	106
12	1754	10	33	133
13	1485	7	38	108
14	1258	7	64	134
15	1466	7	80	150
16	967	6	85	145
17	825	5	79	129
18	1355	6	60	120
19	1428	6	37	97
20	1477	4	25	65
21	1615	5	35	85
22	1580	6	58	118
23	1247	6	64	124
24	1163	5	27	77
25	1178	5	38	88
26	823	4	26	66
27	802	7	22	92
28	700	4	23	63
29	48	1	2	12
30	327	3	6	36
OCTOBER				
1	537	3	22	52
2	634	3	27	57
3	678	3	16	46
4	500	3	11	41
5	387	2	9	29
6	290	2	2	22
7	218	1	1	11
8	884	5	5	55
09	1100	7	61	131
10	1265	7	34	104
11	1712	7	31	101
12	1417	6	27	87
13	1115	5	24	74
14	993	4	11	51
15	1150	4	33	73
16	1186	3	30	60
17	1187	4	21	61
18	1381	6	17	77
19	1589	5	41	91
20	763	4	28	68
21	364	2	16	36
22	367	2	9	29
23	66	2	4	24
24	84	1	2	12
25	290	3	5	35
26	828	5	14	64
27	1467	7	28	98
28	1337	6	41	101
29	1206	5	38	88
30	1064	4	47	87
31	914	4	28	68
NOVEMBER				
1	738	4	43	83
2	561	4	50	90
3	752	4	11	51
4	1173	5	10	60
5	1465	5	32	82
6	1348	4	10	50
7	1118	2	5	25
8	1165	4	21	61
9	1039	4	38	78
10	1130	4	24	64
11	971	6	39	99
12	811	4	14	54
13	581	4	20	60
14	622	4	16	56
15	630	5	12	62
16	593	4	6	46
17	641	7	17	87
18	514	5	8	58
19	570	4	8	48
20	594	4	11	51
21	522	3	4	34
23	606	5	9	59
24	620	5	20	70
25	765	7	21	91
26	878	7	19	89
27	847	6	16	76
28	1009	5	31	81
29	993	5	11	61
30	278	3	8	38
DECEMBER				
1	160	3	14	44
2	102	2	9	29
3	109	2	3	23
4	557	2	5	25
5	85	2	7	27
6	144	2	10	30
7	306	5	15	65
8	341	6	12	72
9	145	1	2	12
10	266	2	9	29
11	134	1	3	13
12	61	1	1	11
13	146	2	4	24
14	436	3	5	35
15	884	5	38	88
16	1012	4	38	78
17	1102	3	23	53
19	1309	3	48	78
20	1432	4	38	78
21	1562	3	25	55
22	1488	3	19	49
23	1368	4	29	69
24	1333	3	31	61
26	858	3	9	39
27	497	1	16	26
28	775	1	5	15
29	629	1	10	20
31	800	3	33	63

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
10562	1 1.647	357	−12	48	2	1
	1 2.653	356	−12	170	3	2
	1 3.742	356	−11	242	8	4
	1 4.678	355	−11	338	30	4
	1 5.665	356	−11	460	17	3
	1 6.651	357	−12	764	40	4
	1 7.647	356	−13	630	35	4
	1 8.635	358	−12	630	22	5
	1 9.682	357	−13	545	16	4
	1 10.640	0	−14	478	5	4
	1 11.655	0	−13	497	6	3
10563	1 4.678	352	+36	16	7	1
10564	1 4.678	295	−17	6	1	1
	1 5.665	294	−19	36	2	1
	1 6.651	293	−20	18	4	2
	1 7.647	298	−19	18	2	2
	1 8.635	303	−20	28	5	2
10565	1 6.651	295	+ 6	6	1	1
10566	1 6.651	297	+ 8	12	2	1
10567	1 7.647	271	+12	24	1	1
	1 9.682	274	+11	36	2	1
	1 10.640	276	+11	48	1	1
	1 11.655	277	+12	36	1	1
10568	1 8.635	37	+ 8	6	1	1
10569	1 9.682	12	+25	6	1	1
10570	1 9.682	302	−20	12	6	1
10571	1 9.682	272	−20	18	3	2
10572	1 11.655	314	+19	121	6	3
	1 12.655	314	+19	122	2	2
	1 13.650	311	+20	97	4	1
	1 14.717	313	+18	48	6	2
10574	1 14.717	205	+17	28	3	2
	1 15.696	205	+16	108	5	3
	1 16.651	206	+16	194	13	4
	1 17.708	206	+14	229	16	4
	1 18.652	205	+15	194	7	2
	1 19.645	206	+16	194	17	2
	1 20.681	207	+16	134	9	2
	1 21.732	208	+15	134	22	2
	1 22.644	208	+16	145	5	2
	1 23.645	209	+15	73	6	1

No.	Date	L	φ	A	s	p
		°	°			
10575	1 17.708	127	+13	145	1	1
	1 18.652	127	+13	145	1	1
	1 19.645	128	+13	97	1	1
	1 20.681	129	+13	73	1	1
	1 21.732	129	+13	48	1	1
	1 22.644	130	+13	36	1	1
	1 23.645	131	+12	6	1	1
10576	1 18.652	194	+ 8	85	7	2
	1 19.645	197	+ 7	96	13	2
	1 20.681	199	+ 7	96	3	3
	1 21.732	201	+ 7	52	14	2
	1 22.644	203	+ 6	48	3	2
	1 23.645	199	+ 7	16	2	1
10577	1 19.645	120	− 4	12	1	1
	1 21.732	118	− 6	6	1	1
	1 22.644	119	− 5	6	1	1
	1 23.645	121	− 5	6	1	1
10578	1 22.644	143	− 5	60	6	2
	1 23.645	143	− 5	48	10	1
	1 24.774	142	− 4	12	5	1
10579	1 22.644	63	−10	193	3	2
	1 23.645	65	− 9	297	4	3
	1 24.774	64	− 9	309	5	3
	1 25.782	63	−10	266	2	2
	1 26.701	63	−10	303	3	2
	1 27.663	64	−10	254	14	2
	1 28.753	67	− 9	230	7	3
	1 31.703	72	− 8	169	5	2
	2 1.717	69	− 7	145	2	1
	2 2.679	71	− 7	121	1	1
10580	1 22.644	61	−11	145	1	1
	1 27.663	61	−12	61	1	1
	1 23.645	62	−11	97	1	1
	1 24.774	62	−12	67	2	2
	1 25.782	60	−12	61	1	1
	1 26.701	60	−12	61	1	1
	1 28.753	61	−13	48	1	1
10581	1 23.645	67	+10	48	8	1
	1 24.774	66	+10	206	9	2
	1 25.782	65	+10	315	6	2
	1 26.701	66	+ 9	363	12	3
	1 27.663	68	+ 9	351	10	3
	1 28.753	69	+ 9	412	12	3
	1 31.703	72	+11	436	29	3
	2 1.717	69	+10	412	20	3
	2 2.679	70	+ 8	533	7	3
10582	1 23.645	53	+ 7	509	4	2
	1 24.774	48	+ 7	933	11	5
	1 25.782	48	+ 7	1018	9	5
	1 26.701	49	+ 8	1163	40	6

TABLE III.a

No.	Date	L	φ	A	s	p
		°	°			
	1 27.663	50	+ 8	1079	25	5
	1 28.753	52	+ 7	1478	36	3
	1 31.703	51	+ 7	1430	58	4
	2 1.717	52	+ 8	1114	38	4
	2 2.679	54	+ 7	945	13	3
	2 3.651	53	+ 9	776	1	1
10583	1 25.782	80	−13	12	1	1
	1 26.701	79	−11	109	7	2
	1 27.663	82	−12	36	6	1
	1 31.703	83	−12	72	11	2
	2 1.717	81	−11	97	3	1
10584	1 26.701	12	+24	145	1	1
	1 27.663	14	+24	145	1	1
	1 28.753	15	+23	127	2	2
	1 31.703	14	+25	48	1	1
	2 1.717	14	+26	60	9	2
	2 2.679	16	+24	134	6	2
	2 3.651	18	+24	96	9	3
	2 4.740	17	+25	60	11	4
	2 5.936	12	+25	16	5	1
10585	1 27.663	1	+25	97	1	1
	1 28.753	1	+24	97	2	1
	1 31.703	1	+25	24	4	1
	2 1.717	0	+25	12	4	1
10586	2 1.717	14	− 6	16	2	1
10587	2 1.717	341	−11	61	10	1
	2 2.679	344	−11	109	9	2
	2 3.651	347	−11	242	16	3
	2 4.740	346	−10	193	13	3
	2 5.936	348	−10	133	6	2
	2 6.653	353	−11	85	1	1
	2 7.903	350	−11	97	1	1
	2 8.660	351	−12	97	1	1
10588	2 4.740	330	−16	32	6	2
	2 5.936	330	−15	36	3	1
	2 6.653	332	−15	16	4	1
	2 7.903	328	−15	24	2	1
	2 8.660	330	−14	24	1	1
	2 9.665	330	−14	24	2	1
	2 10.698	330	−14	145	2	1
10589	2 4.740	26	+ 7	28	11	2
10590	2 4.740	16	+16	18	6	2
10591	2 5.936	302	+20	24	2	2
	2 7.903	306	+19	24	2	1
10592	2 5.936	242	+12	12	1	1
	2 6.653	242	+11	48	1	1
	2 7.903	240	+11	24	5	1
	2 8.660	244	+11	56	2	2
	2 9.665	243	+11	60	5	2
	2 10.698	244	+ 9	243	6	2
	2 11.901	245	+ 9	158	5	2
	2 12.647	248	+ 8	121	11	2
10593	2 7.903	278	+ 8	16	2	1
10594	2 7.903	243	− 5	72	4	2
	2 9.665	247	− 4	36	8	1
10595	2 7.903	209	+ 5	97	1	1
	2 8.660	211	+ 6	145	1	1
	2 9.665	209	+ 5	73	1	1
	2 10.698	211	+ 3	73	2	1
	2 11.901	210	+ 5	97	2	1
	2 12.647	211	+ 4	73	1	1
	2 13.645	212	+ 4	48	1	1
	2 14.694	211	+ 4	36	4	1
	2 15.668	212	+ 4	16	1	1
	2 16.793	213	+ 4	48	1	1
10596	2 8.660	235	− 4	40	5	2
	2 9.665	233	− 5	134	11	2
	2 10.698	236	− 6	194	5	3
10597	2 9.665	182	−12	242	1	1
	2 10.698	181	−13	242	2	1
	2 11.901	180	−13	97	1	1
	2 12.647	181	−13	97	1	1
	2 13.645	182	−14	61	1	1
	2 14.694	182	−14	48	1	1
	2 15.668	183	−14	16	1	1
	2 16.793	182	−14	48	1	1
	2 17.859	182	−14	24	1	1
	2 18.702	182	−14	24	1	1
10598	2 10.698	267	−19	48	2	1
10599	2 10.698	247	+15	16	6	1
	2 11.901	249	+16	109	5	2
	2 12.647	248	+15	60	6	2
10600	2 10.698	211	+ 9	145	6	4
	2 11.901	213	+11	158	6	3
	2 12.647	213	+ 9	194	10	3
	2 13.645	211	+ 9	48	5	2
	2 14.694	211	+ 9	24	7	1
10601	2 11.901	153	+13	97	1	1
	2 12.647	156	+12	387	4	2
	2 13.645	157	+12	412	4	2
	2 14.694	157	+12	339	5	2
	2 15.668	158	+12	218	5	2

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
	2 16.793	159	+12	218	2	2
	2 17.859	159	+12	194	2	2
	2 18.702	159	+12	175	3	
	2 18.702	161	+13	169	2	2
	2 19.885	161	+13	145	1	1
	2 20.653	159	+13	113	7	2
	2 21.671	161	+13	72	9	2
	2 22.682	163	+12	97	1	1
10602	2 14.694	248	+ 7	48	9	2
	2 15.668	248	+ 7	84	4	2
10603	2 13.645	154	− 1	12	1	1
	2 14.694	152	− 2	72	8	2
	2 15.668	151	− 2	48	5	2
10604	2 15.668	129	+12	16	2	1
	2 16.793	128	+12	73	2	1
	2 17.859	129	+12	60	6	2
	2 18.702	129	+12	16	5	1
10605	2 18.702	62	+12	97	1	1
	2 19.885	61	+11	679	6	3
	2 20.653	60	+10	702	31	5
	2 21.671	59	+11	654	27	5
	2 22.682	61	+11	726	7	4
	2 23.683	64	+10	762	60	7
	2 24.638	64	+11	993	30	5
	2 25.731	64	+11	1018	50	5
	2 26.688	66	+10	920	46	4
	2 27.663	66	+10	716	22	3
	2 28.647	66	+11	545	31	3
	3 2.712	70	+11	291	10	2
10606	2 21.671	72	+12	16	1	1
10607	2 28.647	28	+ 4	48	2	1
	3 2.712	30	+ 4	84	8	2
	3 3.882	32	+ 4	48	1	1
	3 4.678	33	+ 4	24	1	1
10608	2 28.647	16	− 8	24	1	1
10609	2 26.688	339	−12	48	1	1
	2 27.663	340	−12	48	2	1
	2 28.647	341	−12	36	2	2
	3 2.712	335	−12	194	21	3
	3 3.882	335	−13	242	10	3
	3 4.678	334	−12	140	16	3
	3 5.679	336	−14	156	16	4
	3 6.660	336	−14	109	4	2
	3 7.678	338	−16	48	4	2
10610	2 28.647	331	−15	84	4	2
10611	3 4.678	336	+13	28	5	2
	3 5.679	336	+13	36	2	2
	3 6.660	339	+12	61	3	1
	3 7.678	339	+12	48	4	1
10612	3 7.678	280	−17	108	4	3
	3 8.780	284	−15	36	1	1
	3 9.623	286	−15	36	1	1
	3 10.667	288	−15	24	3	1
10613	3 6.660	220	+15	291	2	1
	3 7.678	220	+16	248	2	2
	3 8.780	218	+15	266	4	2
	3 9.623	220	+15	254	6	2
	3 10.667	222	+14	266	7	2
	3 11.672	219	+13	218	14	2
	3 12.643	221	+13	194	1	1
	3 13.933	219	+13	194	1	1
	3 14.681	222	+13	210	2	2
	3 15.643	223	+12	182	1	1
	3 16.748	221	+11	194	1	1
	3 17.624	223	+11	194	1	1
10614	3 11.672	201	− 2	303	12	3
	3 12.643	201	− 4	352	8	3
	3 13.933	200	− 3	326	5	4
	3 14.681	202	− 4	230	6	3
	3 15.643	203	− 5	158	4	2
	3 16.748	204	− 5	96	2	2
	3 17.624	205	− 7	60	2	2
	3 18.813	204	− 7	60	2	2
10615	3 12.643	141	− 4	12	1	1
10616	3 16.748	77	+12	679	1	1
	3 17.624	79	+12	776	1	1
	3 18.813	76	+12	824	2	2
	3 19.735	78	+14	909	4	3
	3 20.647	83	+15	860	3	3
	3 21.742	80	+13	873	1	1
	3 22.745	80	+13	921	1	1
	3 23.651	80	+12	933	1	1
	3 24.599	79	+13	1018	7	2
	3 25.812	78	+12	1066	3	3
	3 26.695	80	+13	1212	8	2
	3 27.642	79	+13	1091	7	2
	3 28.682	80	+12	970	1	1
10617	3 18.813	62	+ 5	194	1	1
	3 19.735	63	+ 5	194	1	1
	3 20.647	64	+ 5	194	1	1
	3 21.742	64	+ 5	267	1	1
	3 22.745	64	+ 4	242	1	1
	3 23.651	64	+ 4	242	1	1
	3 24.599	63	+ 5	302	4	3
	3 25.812	64	+ 4	218	2	2
	3 26.695	64	+ 4	194	1	1
	3 27.642	66	+ 4	170	1	1
	3 28.682	66	+ 4	145	1	1
	3 29.741	65	+ 4	145	1	1

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
10618	3 19.735	160	+13	60	5	2
	3 20.647	159	+13	121	2	2
	3 21.742	159	+11	60	2	2
	3 22.745	162	+11	24	1	1
10619	3 20.647	108	+19	16	4	1
10620	3 21.742	138	+15	16	2	1
10621	3 22.745	72	+ 9	60	10	2
	3 23.651	68	+10	109	4	2
	3 24.599	69	+ 9	145	9	2
	3 25.812	68	+ 9	97	2	2
	3 26.695	67	+ 9	48	3	1
	3 27.642	68	+ 8	48	1	1
	3 28.682	70	+ 8	48	1	1
10622	3 21.742	40	+14	36	1	1
	3 22.745	40	+14	84	4	2
	3 23.651	41	+14	12	1	1
	3 24.599	46	+13	16	1	1
	3 26.695	44	+12	12	1	1
	3 27.642	44	+11	24	1	1
10623	3 22.745	89	−11	24	8	1
	3 23.651	90	−11	145	9	2
	3 24.599	90	−11	339	14	2
	3 25.812	89	−10	424	4	3
	3 26.695	88	−11	394	10	3
	3 27.642	91	−10	484	5	3
10624	3 22.745	1	+11	388	3	2
	3 23.651	4	+12	752	4	3
	3 24.599	6	+11	594	14	3
	3 25.812	8	+11	532	20	3
	3 26.695	7	+11	473	22	3
	3 27.642	9	+10	412	17	2
	3 28.682	8	+10	303	5	2
	3 29.741	8	+10	230	5	2
	3 30.860	9	+ 8	125	3	3
	3 31.670	9	+ 9	109	5	2
	4 1.851	5	+ 6	109	5	2
	4 2.735	9	+ 8	73	1	1
10625	3 24.599	25	− 8	96	5	2
10626	3 25.812	334	+18	48	3	1
	3 26.695	337	+16	12	1	1
10627	3 26.695	340	−13	12	2	1
	3 27.642	340	−12	60	4	2
	3 28.682	340	−13	145	9	2
	3 29.741	338	−13	28	3	2
	3 30.860	344	−13	16	10	1
	3 31.670	342	−13	24	5	1
	4 1.851	338	−13	24	10	1

No.	Date	L	φ	A	s	p
		°	°			
10628	3 29.741	273	−16	97	4	1
	3 30.860	270	−15	170	6	2
	3 31.670	273	−14	145	10	3
	4 1.851	271	−16	73	9	2
	4 2.735	271	−16	40	8	2
	4 5.665	270	−19	60	6	2
	4 6.651	269	−19	36	1	1
	4 7.646	267	−21	24	1	1
	4 8.622	269	−19	6	2	1
10629	4 2.735	218	+13	97	1	1
	4 3.678	220	+13	121	1	1
	4 4.661	221	+14	97	1	1
	4 5.665	222	+14	73	1	1
	4 6.651	222	+15	36	1	1
	4 7.646	222	+14	48	4	1
	4 8.622	222	+14	36	1	1
	4 9.692	222	+14	24	1	1
	4 10.774	221	+14	12	1	1
	4 11.669	221	+14	6	1	1
10630	4 5.665	253	+15	170	6	2
	4 6.651	253	+15	339	18	2
	4 7.646	252	+14	460	12	3
	4 8.622	251	+14	727	11	3
	4 9.692	252	+13	703	12	2
	4 10.774	250	+12	727	13	3
	4 11.669	251	+13	533	8	3
	4 12.645	248	+14	339	1	1
10632	4 6.651	194	− 9	97	2	2
	4 7.646	194	− 9	109	8	2
	4 8.622	194	−11	97	10	2
	4 9.692	196	−11	145	5	2
	4 10.774	195	−10	133	12	3
	4 11.669	196	−13	157	18	2
	4 12.645	197	−10	266	23	3
	4 13.792	195	−12	158	6	2
	4 14.645	199	−11	412	7	3
10633	4 5.665	185	− 7	24	3	1
	4 6.651	186	− 8	12	2	1
	4 7.646	186	− 8	12	2	1
	4 8.622	183	−10	52	17	3
	4 9.692	182	− 9	121	8	2
	4 10.774	183	− 9	24	2	1
	4 11.669	183	−10	24	10	1
	4 12.645	185	−10	24	9	1
10634	4 7.646	166	− 2	24	4	1
	4 8.622	161	− 3	97	9	2
	4 9.692	165	− 2	96	4	2
	4 10.774	164	− 2	48	1	1
	4 11.669	166	− 2	18	2	2
10635	4 9.692	226	− 9	12	2	1
	4 10.774	225	− 9	145	8	1
	4 11.669	227	− 9	97	12	1
	4 12.645	229	− 9	36	2	1

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
10636	4 11.669	151	+11	12	2	1
10637	4 11.669	101	− 4	12	2	1
	4 12.645	103	− 4	48	6	1
	4 13.792	105	− 5	133	16	2
	4 14.645	105	− 5	218	12	2
	4 15.714	106	− 6	218	10	2
	4 16.892	108	− 5	291	5	3
	4 17.632	109	− 4	242	12	3
	4 18.631	109	− 5	290	10	2
	4 19.724	112	− 5	218	9	1
	4 20.651	113	− 6	206	1	1
	4 21.661	112	− 6	218	2	1
	4 22.756	113	− 6	194	1	1
10638	4 12.645	94	− 7	258	17	2
	4 13.792	95	− 8	182	10	2
	4 14.645	96	− 7	158	8	2
	4 15.714	97	− 8	127	10	2
	4 21.661	92	−10	73	2	1
	4 22.756	92	−10	24	1	1
10639	4 12.645	88	+12	776	3	1
	4 13.792	85	+16	1891	7	4
	4 14 645	86	+15	1988	17	4
	4 15.714	87	+14	1987	11	4
	4 16.892	86	+15	1842	13	3
	4 17.632	88	+14	1939	24	4
	4 18.631	88	+13	2278	42	6
	4 19.724	90	+12	2520	110	7
	4 20.651	90	+12	2036	61	7
	4 21.661	89	+11	1720	39	5
	4 22.756	87	+13	1625	58	7
	4 23.667	89	+10	1539	22	6
	4 24.704	87	+11	933	10	5
10640	4 13.792	175	− 9	16	2	1
	4 14.645	179	− 9	24	1	1
10641	4 15.714	71	+ 8	6	1	1
10642	4 17.632	95	+21	24	2	1
	4 18.631	95	+20	32	4	2
	4 19.724	91	+19	12	1	1
	4 20.651	92	+19	12	1	1
	4 21.661	88	+17	24	5	1
10643	4 20.651	9	− 7	73	8	1
	4 21.661	8	− 9	158	8	3
	4 22.756	11	−11	97	14	2
	4 23.667	8	−11	24	4	1
	4 24.704	7	−12	24	5	1
10644	4 20.651	7	−12	146	3	2
	4 21.661	6	−14	145	13	2
	4 22.756	8	−16	145	32	2
	4 23.667	7	−15	460	20	3
	4 24.704	8	−15	400	22	3
	4 25.659	8	−16	605	25	3
	4 26.658	9	−15	702	35	3
	4 27.654	10	−17	848	6	3
	4 28.698	10	−16	782	7	3
	4 29.651	8	−18	873	2	2
	4 30.652	9	−19	775	2	2
10645	4 21.661	39	+12	64	2	2
	4 22.756	41	+11	36	6	2
	4 23.667	39	+11	36	2	1
10646	4 21.661	345	+19	133	4	2
	4 22.756	347	+18	314	29	3
	4 23.667	349	+12	569	17	5
	4 24.704	346	+19	606	31	4
	4 25.659	346	+19	546	9	4
	4 26.658	347	+19	533	12	4
	4 27.654	346	+18	533	11	3
	4 28.698	349	+18	424	6	3
	4 29.651	345	+17	436	4	3
	4 30.652	344	+17	461	5	3
	5 1.653	345	+17	485	2	2
	5 2.660	340	+19	291	1	1
10647	4 24.704	351	+ 2	97	7	3
	4 25.659	353	+ 2	36	2	2
	4 26.658	357	+ 1	12	1	1
	4 27.654	357	+ 1	48	3	1
10648	4 23.667	304	− 4	24	2	1
	4 24.704	304	− 4	154	7	2
	4 25.659	306	− 4	291	12	3
	4 26.658	306	− 5	316	4	3
	4 27.654	305	− 5	266	8	2
	4 28.698	306	− 5	206	6	2
	4 29.651	306	− 7	242	4	2
	4 30.652	307	− 6	170	3	2
	5 1.653	310	− 7	194	1	1
	5 2.660	311	− 8	194	1	1
	5 3.651	311	− 9	194	1	1
	5 4.660	312	− 9	194	1	1
10649	4 27.654	322	− 4	97	10	1
	4 28.698	325	− 4	266	9	2
	4 29.651	325	− 5	412	3	2
	4 30.652	326	− 5	412	4	2
	5 1.653	326	− 6	315	5	2
	5 2.660	327	− 6	279	5	2
	5 3.651	331	− 6	218	1	1
10650	4 26.658	273	− 9	61	1	1
	4 27.654	274	− 9	48	1	1
	4 28.698	275	− 9	48	1	1
	4 29.651	275	−10	48	1	1
	4 30.652	275	−11	24	1	1
	5 1.653	274	−11	24	1	1
	5 2.660	274	−11	16	3	1
10651	5 1.653	278	−18	109	2	2

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
	5 2.660	281	−18	134	5	2
	5 3.651	281	−19	109	5	2
	5 4.660	283	−19	158	16	3
	5 5.924	282	−19	182	9	2
	5 6.578	283	−18	327	14	3
	5 7.710	278	−19	194	1	1
10652	5 1.653	252	−13	12	5	1
10653	5 4.660	249	+12	6	2	1
	5 5.924	245	+13	6	1	1
10654	5 3.651	189	−21	6	1	1
10655	5 4.660	202	+ 6	6	1	1
10656	5 6.578	250	−15	12	1	1
10657	5 7.710	228	+15	12	4	1
10659	5 7.710	138	− 9	12	1	1
	5 8.653	140	− 9	6	1	1
10660	5 7.710	117	+10	242	1	1
	5 8.653	119	+ 9	242	1	1
	5 9.682	120	+ 8	218	1	1
	5 10.653	120	+ 8	218	1	1
	5 11.883	119	+ 8	218	1	1
	5 12.690	121	+ 8	194	1	1
	5 13.624	118	+ 9	242	10	2
	5 14.648	119	+ 8	230	11	3
	5 15.651	120	+ 7	194	1	1
	5 16.684	121	+ 7	194	1	1
	5 17.664	122	+ 7	194	1	1
	5 18.674	122	+ 7	194	1	1
	5 19.655	122	+ 7	194	1	1
10661	5 10.653	165	−15	52	7	2
	5 11.883	162	−15	60	9	2
	5 12.690	163	−15	12	1	1
10662	5 9.682	87	+15	909	4	3
	5 10.653	88	+16	2290	10	4
	5 11.883	87	+15	2581	15	5
	5 12.690	88	+15	2768	24	6
	5 13.624	88	+13	3575	30	7
	5 14.648	89	+14	3745	16	4
	5 15.651	88	+13	4024	20	3
	5 16.684	89	+15	4095	46	7
	5 17.664	91	+13	4109	25	4
	5 18.674	91	+14	3967	18	4
	5 19.655	92	+13	4460	20	4
	5 20.624	92	+13	4121	24	6
	5 21.691	88	+15	3927	13	5
	5 22.706	82	+12	582	3	1

No.	Date	L	φ	A	s	p
		°	°			
10663	5 10.653	76	+ 8	210	2	2
	5 11.883	79	+ 8	194	1	1
	5 12.690	79	+ 7	218	6	2
	5 13.624	80	+ 7	206	6	2
	5 14.648	82	+ 6	170	1	1
	5 15.651	79	+ 8	186	7	2
	5 16.684	80	+ 6	145	1	1
	5 17.664	82	+ 7	121	1	1
	5 18.674	81	+ 5	97	3	1
	5 19.655	81	+ 6	61	3	1
	5 20.624	82	+ 5	61	9	1
10664	5 10.653	72	+12	194	1	1
	5 11.883	72	+14	266	2	2
	5 12.690	72	+13	230	5	2
	5 13.624	75	+11	194	1	1
	5 14.648	75	+11	109	1	1
	5 15.651	75	+12	133	8	2
	5 16.684	75	+12	145	12	2
	5 17.664	76	+12	145	6	2
	5 18.674	74	+12	194	25	3
	5 19.655	74	+11	125	14	4
	5 20.624	76	+12	36	9	2
10665	5 10.653	79	+ 3	36	2	1
	5 11.883	76	+ 3	242	8	2
	5 12.690	76	+ 2	218	7	2
	5 13.624	77	+ 2	145	10	2
	5 14.648	78	+ 1	72	4	3
	5 15.651	76	+ 2	36	16	2
	5 16.684	78	+ 1	16	10	1
	5 17.664	77	+ 2	12	2	1
10666	5 11.883	138	−10	109	10	1
	5 12.690	140	−12	36	9	2
	5 13.624	141	−12	24	7	1
10667	5 12.690	49	+12	16	1	1
	5 13.624	50	+12	145	2	1
	5 14.648	51	+12	97	2	1
	5 15.651	51	+11	169	11	2
	5 16.684	50	+12	170	16	1
	5 17.664	52	+12	145	20	2
	5 18.674	52	+11	73	9	1
	5 19.655	53	+11	85	11	2
	5 20.624	54	+11	48	2	1
	5 21.691	53	+11	24	1	1
	5 22.706	52	+10	12	2	1
10668	5 13.624	105	+ 7	61	8	1
	5 14.648	104	+ 7	73	4	1
	5 15.651	104	+ 7	16	1	1
	5 16.684	106	+ 8	12	1	1
	5 17.664	108	+ 8	6	1	1
	5 18.674	107	+ 8	12	2	1
	5 19.655	108	+ 8	12	1	1
10669	5 14.648	104	− 1	12	2	1

TABLE IIIa

No.	Date	L	φ	A	s	p
		°	°			
10670	5 15.651	110	+19	6	1	1
10671	5 15.651	10	−13	242	1	1
	5 16.684	12	−12	291	1	1
	5 17.664	11	−13	261	2	2
	5 18.674	10	−13	255	1	1
	5 19.655	10	−15	242	2	1
	5 20.624	12	−15	279	4	2
	5 21.691	12	−13	315	5	2
	5 22.706	10	−15	206	1	1
	5 23.646	12	−16	242	1	1
	5 24.671	12	−17	242	1	1
	5 25.644	10	−17	242	1	1
	5 26.663	10	−17	242	1	1
	5 27.678	10	−17	145	1	1
10672	5 16.684	359	−12	218	5	2
	5 17.664	0	−12	181	7	3
	5 18.674	357	−14	101	9	3
	5 19.655	359	−14	61	10	1
	5 20.624	359	−15	388	32	1
	5 21.691	359	−14	363	13	2
	5 22.706	359	−13	279	13	3
	5 23.646	0	−14	182	11	3
	5 24.671	0	−15	109	25	2
	5 25.644	358	−15	60	9	2
	5 26.663	3	−15	12	1	1
10673	5 16.684	2	+23	218	6	2
	5 17.664	4	+24	315	15	2
	5 18.674	2	+22	508	21	3
	5 19.655	3	+22	824	12	2
	5 20.624	6	+20	933	31	3
	5 21.691	6	+22	1212	11	2
	5 22.706	5	+22	1042	14	3
	5 23.646	6	+20	1188	10	4
	5 24.671	5	+20	1019	13	5
	5 25.644	4	+20	849	7	3
	5 26.663	5	+20	934	4	3
	5 27.678	4	+18	994	4	3
	5 28.569	4	+17	679	16	3
10674	5 17.664	49	− 6	12	6	1
	5 18.674	49	− 7	24	1	1
10675	5 18.674	336	+21	73	1	1
	5 19.655	336	+21	73	1	1
	5 20.624	337	+21	36	1	1
	5 21.691	338	+21	24	1	1
	5 22.706	337	+21	24	1	1
	5 23.646	339	+21	12	1	1
10676	5 18.674	330	− 6	194	1	1
	5 19.655	329	− 6	145	1	1
	5 20.624	330	− 6	97	1	1
	5 21.691	331	− 6	97	1	1
	5 22.706	329	− 5	103	4	2
	5 23.646	330	− 6	73	1	1
	5 24.671	330	− 6	109	1	1
	5 25.644	330	− 6	73	1	1
	5 26.663	331	− 6	73	1	1
	5 27.678	332	− 8	85	1	1
	5 28.569	332	− 8	36	1	1
	5 29.798	329	− 8	24	1	1
	5 30.682	333	− 8	12	1	1
10677	5 20.624	355	+16	16	6	1
	5 21.691	354	+18	267	6	1
	5 22.706	354	+18	436	14	1
	5 23.646	357	+18	582	18	2
	5 24.671	357	+17	775	20	2
	5 25.644	358	+17	1018	12	2
	5 26.663	356	+16	1090	9	3
	5 27.678	356	+15	970	6	3
	5 28.569	355	+15	970	11	4
10678	5 21.691	290	−20	242	1	1
	5 22.706	284	−20	594	2	2
	5 23.646	287	−19	582	4	2
	5 24.671	287	−19	549	11	2
	5 25.644	286	−19	654	9	3
	5 26.663	286	−19	636	2	2
	5 27.678	285	−21	569	7	2
	5 28.569	293	−20	549	9	2
	5 29.798	287	−21	491	2	2
	5 30.682	290	−22	485	1	1
	5 31.647	289	−22	485	1	1
	6 1.648	290	−22	485	1	1
	6 2.660	289	−22	533	1	1
10679	5 25.644	245	+16	291	1	1
	5 26.663	245	+16	315	1	1
	5 27.678	243	+15	424	4	2
	5 28.569	244	+14	363	8	2
	5 29.798	243	+16	472	5	2
	5 30.682	245	+15	448	2	2
	5 31.647	246	+15	448	2	2
	6 1.648	246	+14	388	1	1
	6 2.660	246	+14	404	3	2
	6 3.726	245	+14	388	1	1
	6 4.647	246	+14	388	1	1
	6 5.582	245	+14	388	4	1
	6 6.652	245	+14	242	2	1
10680	5 26.663	297	− 4	12	1	1
	5 27.678	295	− 4	6	2	1
	5 28.569	297	− 4	6	1	1
	5 30.682	301	− 7	24	8	2
10681	5 28.569	352	−11	48	3	1
10682	5 31.647	242	− 8	12	2	1
10683	5 31.647	195	−12	6	1	1

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
10684	5 31.647	168	− 3	12	1	1
	6 1.648	166	− 2	60	5	2
	6 2.660	165	− 2	16	1	1
10686	6 4.647	143	−10	72	2	2
	6 5.582	143	−12	121	17	2
	6 6.652	143	−11	121	15	1
	6 7.667	142	− 9	254	17	3
	6 8.831	141	−11	36	2	1
	6 9.849	144	−13	24	2	1
	6 10.563	144	−12	12	4	1
10687	6 4.647	102	+ 9	97	1	1
	6 5.582	97	+ 9	388	2	1
	6 6.652	98	+11	679	17	4
	6 7.667	95	+10	1066	14	5
	6 8.831	97	+11	897	22	2
	6 9.849	100	+10	1066	26	3
	6 10.563	100	+10	909	23	4
	6 11.658	100	+ 9	775	22	2
	6 12.659	98	+ 9	473	19	3
	6 13.561	100	+ 8	473	28	3
	6 14.656	99	+ 8	376	11	2
	6 15.654	100	+ 7	279	14	3
	6 16.650	95	+ 6	242	1	1
10688	6 5.582	148	− 8	36	11	2
	6 6.652	151	− 6	423	15	3
	6 7.667	152	− 7	606	22	3
	6 8.831	152	− 8	606	12	2
	6 9.849	152	− 9	581	11	2
	6 10.563	155	− 8	533	13	2
	6 11.658	152	− 7	533	2	2
	6 12.659	154	− 7	448	4	2
10689	6 5.582	93	+19	145	8	2
	6 6.652	96	+19	339	9	2
	6 7.667	96	+19	242	8	2
	6 8.831	93	+19	121	6	1
	6 9.849	97	+17	72	4	2
	6 10.563	97	+17	121	10	2
	6 11.658	92	+17	61	4	1
	6 12.659	94	+16	36	6	1
10690	6 5.582	89	+14	970	4	1
	6 6.652	90	+16	1042	5	4
	6 7.667	87	+15	994	9	3
	6 8.831	88	+16	823	7	3
	6 9.849	87	+16	1103	14	4
	6 10.563	88	+16	1042	15	4
	6 11.658	87	+15	812	16	4
	6 12.659	88	+14	836	8	4
	6 13.561	90	+14	944	57	5
	6 14.656	89	+12	739	15	5
	6 15.654	88	+12	679	16	4
	6 16.650	87	+13	630	11	2
	6 17.783	88	+13	679	2	2
10691	6 7.667	68	+10	194	2	1
	6 8.831	65	+11	678	4	3
	6 9.849	64	+11	848	7	4
	6 10.563	66	+10	691	8	3
	6 11.658	65	+10	497	5	3
	6 12.659	65	+10	606	6	3
	6 13.561	66	+10	622	26	4
	6 14.656	68	+ 9	569	27	4
	6 15.654	69	+ 8	363	40	4
	6 16.650	72	+ 7	230	10	2
	6 17.783	71	+ 5	254	2	2
	6 18.831	73	+ 4	388	1	1
10692	6 12.659	3	−12	1697	4	1
	6 13.561	5	−13	2085	1	1
	6 14.656	6	−12	2091	3	2
	6 15.654	6	−13	2145	9	2
	6 16.650	4	−12	1988	15	3
	6 17.783	1	−13	2569	5	2
	6 18.831	7	−13	2109	5	2
	6 19.715	4	−15	2084	8	3
	6 20.649	6	−15	2036	8	3
	6 21.648	8	−14	2013	12	4
	6 22.668	8	−14	1758	12	3
	6 23.663	2	−16	1890	3	3
	6 24.793	5	−15	582	2	1
10693	6 12.659	359	+16	97	1	1
	6 13.561	354	+16	157	2	2
	6 14.656	353	+18	85	3	2
	6 15.654	356	+18	67	2	2
	6 16.650	355	+17	72	8	2
	6 17.783	355	+17	72	2	2
	6 18.831	355	+16	181	7	2
	6 19.715	356	+16	194	14	2
	6 20.649	356	+16	121	10	3
	6 21.648	355	+16	48	3	2
	6 22.668	356	+17	48	1	1
10694	6 13.561	144	− 5	48	4	1
10695	6 13.561	117	+ 4	24	5	1
10696	6 14.656	356	−11	12	1	1
	6 15.654	355	−12	73	17	1
	6 16.650	356	−10	254	7	2
	6 17.783	353	−12	412	11	2
	6 18.831	356	−11	242	12	3
	6 19.715	354	−12	593	18	5
	6 20.649	354	−11	593	24	3
	6 21.648	355	−12	848	8	3
	6 22.668	355	−14	1067	26	2
	6 23.663	357	−13	727	22	3
	6 24.793	354	−10	388	2	1
10697	6 16.650	307	+17	194	1	1
	6 17.783	305	+17	339	4	2
	6 18.831	307	+16	339	3	3
	6 19.715	306	+17	327	2	2
	6 20.649	307	+17	296	4	3

TABLE IIIa

No.	Date	L	φ	A	s	p
		°	°			
	6 21.648	306	+17	218	7	2
	6 22.668	310	+16	242	1	1
	6 23.663	311	+17	242	4	2
	6 24.793	309	+18	291	6	2
	6 25.653	310	+13	291	5	2
	6 26.712	308	+13	200	3	2
	6 27.649	311	+12	97	2	1
10699	6 18.831	281	−20	388	1	1
	6 19.715	283	−20	315	1	1
	6 20.649	279	−22	303	2	2
	6 21.648	283	−21	242	1	1
	6 22.668	283	−21	291	4	1
	6 23.663	283	−22	242	2	1
	6 24.793	282	−22	194	2	1
	6 25.653	284	−22	194	2	1
	6 26.712	278	−22	145	4	2
	6 27.649	281	−23	97	6	1
	6 28.651	281	−23	48	2	1
10700	6 21.648	246	+12	194	1	1
	6 22.668	247	+12	194	1	1
	6 23.663	247	+12	194	1	1
	6 24.793	245	+12	194	1	1
	6 25.653	247	+12	194	1	1
	6 26.712	246	+12	145	1	1
	6 27.649	246	+11	145	1	1
	6 28.651	247	+11	145	1	1
	6 29.758	245	+11	194	1	1
	6 30.651	247	+10	121	2	1
	7 1.608	246	+12	121	6	2
	7 2.563	247	+10	97	1	1
	7 3.654	247	+ 9	97	1	1
10702	6 26.712	184	+11	97	4	1
	6 27.649	184	+11	36	1	1
	6 28.651	184	+11	24	1	1
	6 29.758	182	+11	24	1	1
	6 30.651	185	+11	12	1	1
10703	6 27.649	162	− 4	16	1	1
	6 28.651	163	− 5	24	2	1
	6 30.651	163	− 6	12	2	1
	7 1.608	163	− 6	12	1	1
	7 2.563	164	− 7	12	1	1
	7 3.654	166	− 8	12	2	1
10704	7 2.563	248	− 9	36	2	2
10705	7 2.563	105	+ 8	36	1	1
	7 3.654	105	+ 9	24	7	1
	7 4.742	104	+ 8	24	5	1
	7 5.653	106	+ 8	24	6	1
10706	7 3.654	88	+14	161	2	2
	7 4.742	88	+15	224	5	3
	7 5.653	87	+14	254	10	4
	7 6.653	87	+13	218	21	2

No.	Date	L	φ	A	s	p
		°	°			
	7 7.785	88	+10	158	21	2
	7 8.676	90	+12	97	1	1
	7 9.653	90	+12	85	1	1
	7 10.652	91	+12	73	1	1
	7 11.716	90	+11	48	1	1
	7 12.652	91	+11	42	4	2
	7 13.652	92	+11	24	1	1
	7 14.606	92	+12	48	1	1
10708	7 4.742	74	+ 5	145	1	1
	7 5.653	75	+ 5	145	1	1
	7 6.653	73	+ 5	133	4	2
	7 7.785	74	+ 5	85	1	1
	7 8.676	75	+ 5	73	1	1
	7 9.653	74	+ 5	61	1	1
	7 10.652	75	+ 6	72	7	2
	7 11.716	75	+ 4	36	1	1
10709	7 6.653	189	+ 6	24	6	1
	7 7.785	189	+ 6	24	1	1
10710	7 6.653	169	+10	48	3	2
	7 7.785	169	+ 9	121	9	2
	7 8.676	170	+ 9	145	2	2
10711	7 6.653	111	−13	6	4	1
10712	7 6.653	35	+ 9	97	2	1
	7 7.785	35	+10	412	7	2
	7 8.676	35	+11	387	11	4
	7 9.653	34	+11	157	20	3
	7 10.652	36	+11	217	10	3
	7 11.716	34	+10	145	14	2
	7 12.652	39	+10	96	7	2
	7 13.652	39	+ 9	36	1	1
	7 14.606	40	+ 8	24	2	1
	7 15.878	39	+ 8	12	3	1
10713	7 6.653	44	− 9	388	8	1
	7 7.785	44	− 9	97	9	1
	7 8.676	46	− 9	145	8	2
	7 9.653	48	− 9	61	10	1
	7 10.652	48	−10	48	6	1
10714	7 7.785	109	+ 9	12	7	1
10715	7 7.785	20	− 7	388	2	1
	7 8.676	16	− 9	969	3	2
	7 9.653	20	− 7	921	10	3
	7 10.652	21	− 7	788	4	3
	7 11.716	20	− 9	813	14	3
	7 12.652	22	− 9	752	21	3
	7 13.652	23	− 9	727	12	3
	7 14.606	25	−11	569	13	2
	7 15.878	23	− 9	678	26	2
	7 16.657	22	− 9	582	1	1
	7 17.696	25	−12	606	4	3

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
	7 18.715	25	−12	715	4	3
	7 19.651	27	−10	630	1	1
10716	7 8.676	11	−11	194	1	1
	7 9.653	7	− 9	776	8	2
	7 10.652	9	− 9	921	13	3
	7 11.716	8	−11	751	43	3
	7 12.652	9	−11	678	37	4
	7 13.652	11	−11	654	35	3
	7 14.606	12	−12	606	37	3
	7 15.878	11	−10	568	59	5
	7 16.657	13	−11	412	16	4
	7 17.696	11	−12	376	18	4
	7 18.715	13	−12	327	7	2
	7 19.651	13	−13	157	2	2
	7 20.653	17	−12	194	1	1
10717	7 8.676	117	+ 8	24	1	1
	7 10.652	108	+ 8	24	2	1
10718	7 9.653	98	+20	36	7	1
10720	7 13.652	62	+ 8	12	5	1
	7 14.606	63	+ 9	12	3	1
	7 15.878	65	+12	18	4	2
10721	7 14.606	1	−16	48	16	1
	7 15.878	359	−17	48	10	1
	7 16.657	1	−17	24	2	1
	7 17.696	359	−17	12	2	1
10722	7 17.696	257	− 5	194	1	1
	7 18.715	257	− 5	194	1	1
	7 19.651	256	− 5	218	5	2
	7 20.653	257	− 5	230	4	2
	7 21.653	257	− 6	242	4	2
	7 22.669	257	− 5	194	1	1
	7 23.594	258	− 5	170	1	1
	7 24.716	256	− 5	145	1	1
	7 25.654	258	− 5	97	2	1
	7 26.657	256	− 5	61	2	1
	7 27.651	256	− 5	54	5	1
	7 28.760	257	− 6	24	1	1
10723	7 19.651	247	+10	12	1	1
	7 20.653	247	+11	12	2	1
	7 21.653	247	+11	12	1	1
10724	7 22.669	273	−19	60	6	2
	7 23.594	275	−18	40	15	2
	7 24.716	269	−19	12	2	1
10725	7 23.594	210	− 6	48	18	1
	7 24.716	215	− 6	12	1	1
	7 25.654	216	− 6	48	14	3
	7 26.657	216	− 6	18	11	2
	7 27.651	219	− 5	24	1	1
	7 28.760	220	− 5	24	1	1
	7 29.728	217	− 5	12	2	2
10726	7 22.669	199	− 7	339	2	2
	7 23.594	198	− 6	146	14	3
	7 24.716	198	− 7	134	9	2
	7 25.654	200	− 7	170	19	2
	7 26.657	200	− 5	146	20	3
	7 27.651	202	− 6	122	6	2
	7 28.760	204	− 7	132	9	3
	7 29.728	205	− 7	60	3	2
	7 30.668	205	− 7	36	2	2
	7 31.652	206	− 9	24	2	1
	8 1.764	207	− 9	24	1	1
10727	7 23.594	298	− 7	12	1	1
10728	7 23.594	251	+11	6	1	1
	7 24.716	250	+10	24	1	1
10729	7 23.594	238	+ 1	96	20	2
	7 24.716	237	+ 1	170	11	2
	7 25.654	238	− 1	125	25	4
	7 26.657	237	0	60	8	2
	7 27.651	238	0	30	3	2
	7 28.760	243	− 1	24	1	1
	7 29.728	243	− 2	6	1	1
10730	7 27.651	241	−17	24	10	3
	7 28.760	242	−18	206	8	3
	7 29.728	243	−18	448	9	2
	7 30.668	247	−18	387	2	2
10731	7 28.760	190	− 5	12	1	1
10732	7 28.760	179	− 5	16	2	1
	7 30.668	177	− 6	12	2	1
	7 31.652	179	− 6	194	10	2
	8 1.764	181	− 5	272	14	3
	8 2.649	182	− 5	194	2	1
	8 3.788	182	− 5	194	1	1
	8 4.649	185	− 5	194	1	1
10733	7 30.668	137	+11	6	1	1
10734	7 30.668	137	− 9	6	1	1
	7 31.652	136	−10	72	10	2
	8 1.764	137	−11	134	20	2
	8 2.649	139	−11	121	7	2
	8 3.788	140	−12	121	4	2
	8 4.649	144	−12	24	1	1
	8 5.750	145	−13	12	1	1
10735	7 30.668	127	+11	18	2	2

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
	7 31.652	129	+11	36	5	1
	8 2.649	123	+ 7	12	2	1
10737	8 2.649	89	+14	12	4	1
	8 6.699	94	+16	12	4	1
10738	8 1.764	71	+ 5	6	1	1
	8 2.649	75	+ 6	18	4	2
10739	8 2.649	97	+14	12	2	1
10740	8 2.649	67	+ 8	32	3	2
	8 3.788	67	+ 8	133	6	2
	8 4.649	71	+ 9	137	28	4
	8 5.750	70	+ 9	267	22	2
	8 6.699	70	+ 7	255	20	4
	8 7.682	72	+ 8	242	19	4
	8 8.646	73	+ 7	291	40	3
	8 9.651	72	+ 7	412	38	3
	8 10.733	71	+ 6	315	11	2
	8 11.700	71	+ 6	242	7	2
	8 12.715	72	+ 6	291	4	2
10741	8 3.788	27	− 8	291	1	1
	8 4.649	30	− 8	339	1	1
	8 5.750	28	− 8	291	1	1
	8 6.699	26	− 9	484	3	2
	8 7.682	29	−10	425	13	2
	8 8.646	29	− 9	412	18	3
	8 9.651	30	−10	351	11	2
	8 10.733	29	−11	327	7	3
	8 11.700	30	− 9	145	1	1
	8 12.715	29	−11	248	2	2
	8 13.653	29	−12	303	2	2
	8 14.646	29	−10	267	1	1
	8 15.653	29	−10	267	1	1
10742	8 4.649	26	+ 9	339	2	2
	8 5.750	26	+ 8	436	2	2
	8 6.699	27	+ 9	339	2	2
	8 7.682	29	+ 8	351	10	4
	8 8.646	29	+ 7	279	5	3
	8 9.651	30	+ 8	248	12	4
	8 10.733	30	+ 7	230	6	3
	8 11.700	36	+ 7	279	7	3
	8 12.715	36	+ 6	121	2	1
	8 13.653	35	+ 6	200	4	2
	8 14.646	36	+ 5	194	1	1
	8 15.653	37	+ 5	194	1	1
10743	8 5.750	17	+12	61	1	1
	8 6.699	13	+12	193	2	2
	8 7.682	17	+10	145	9	4
	8 8.646	18	+10	273	23	4
	8 9.651	18	+ 9	461	39	4
	8 10.733	20	+ 8	472	17	5
	8 11.700	20	+ 7	630	16	3
	8 12.715	21	+ 8	539	14	4
	8 13.653	21	+ 7	521	22	3
	8 14.646	20	+ 7	454	12	4
	8 15.653	22	+ 6	315	6	2
	8 16.651	25	+ 6	291	1	1
10746	8 7.682	53	+20	12	1	1
10747	8 7.682	337	−13	436	4	2
	8 8.646	340	−12	484	8	3
	8 9.651	338	−13	636	8	5
	8 10.733	338	−13	521	9	3
	8 11.700	339	−13	485	12	3
	8 12.715	338	−12	303	20	3
	8 13.653	342	−12	219	17	3
	8 14.646	340	−14	157	14	3
	8 15.653	341	−14	84	7	2
	8 16.651	343	−14	24	1	1
	8 17.653	344	−14	24	2	1
	8 18.645	345	−14	12	1	1
10750	8 12.715	56	+17	72	6	2
	8 13.653	58	+17	60	3	2
10751	8 13.653	268	−17	24	1	1
	8 14.646	267	−17	121	4	2
	8 15.653	266	−16	151	9	3
	8 16.651	269	−17	157	8	3
	8 17.653	271	−19	133	12	3
	8 18.645	270	−19	242	18	4
	8 19.708	270	−20	194	12	3
	8 20.649	273	−20	73	10	2
	8 21.649	271	−21	109	5	2
	8 22.649	272	−21	145	13	2
	8 23.652	272	−21	85	3	2
10752	8 15.653	246	−16	24	2	2
	8 16.651	241	−16	230	8	3
	8 17.653	241	−18	267	9	2
	8 18.645	239	−18	128	12	6
	8 19.708	239	−21	109	2	2
10753	8 16.651	263	+ 8	36	2	2
10754	8 18.645	262	−17	32	3	1
	8 19.708	258	−19	145	8	2
	8 20.649	261	−20	278	17	3
	8 21.649	263	−22	242	3	2
	8 22.649	263	−22	182	11	3
	8 23.652	261	−22	230	9	3
	8 24.655	264	−21	194	1	1
	8 25.646	267	−21	194	1	1
10755	8 19.708	243	−18	96	2	2
	8 20.649	246	−17	16	4	1
	8 21.649	254	−19	36	3	2
10756	8 20.649	168	+ 7	12	1	1

TABLE III'a

No.	Date	L	φ	A	s	p
		°	°			
	8 21.649	168	+ 7	24	1	1
	8 22.649	169	+ 7	12	1	1
	8 23.652	170	+ 7	12	1	1
	8 24.655	170	+ 5	6	1	1
10757	8 22.649	151	− 6	12	1	1
	8 23.652	152	− 7	12	1	1
10758	8 24.655	201	− 6	16	6	1
10759	8 26.581	184	+13	48	1	1
10763	8 30.654	36	+10	194	1	1
	8 31.663	30	+11	509	6	3
	9 1.635	31	+10	291	5	3
	9 2.678	32	+10	388	7	2
	9 3.840	32	+11	484	5	4
	9 4.637	31	+11	375	12	5
	9 5.681	32	+10	327	20	4
	9 6.817	33	+ 8	352	24	5
	9 7.637	37	+ 8	193	9	4
	9 8.633	38	+ 7	145	4	2
	9 9.810	40	+ 7	36	2	1
	9 10.649	40	+ 7	61	5	1
10764	8 30.654	31	− 6	218	1	1
	8 31.663	31	− 6	121	1	1
	9 1.635	32	− 6	145	1	1
	9 2.678	30	− 6	80	1	1
	9 3.840	31	− 6	73	1	1
	9 4.637	31	− 6	73	1	1
	9 5.681	30	− 6	73	1	1
	9 6.817	30	− 6	73	1	1
	9 7.637	31	− 6	48	1	1
	9 8.633	32	− 9	84	5	2
	9 9.810	33	−10	279	5	3
	9 10.649	34	−10	209	5	3
	9 11.649	34	−12	242	2	2
10765	9 1.635	83	+17	12	1	1
	9 2.678	82	+16	24	2	2
	9 3.840	83	+17	40	4	2
10769	9 3.840	341	− 4	436	1	1
	9 4.637	341	− 4	388	1	1
	9 5.681	339	− 4	606	3	2
	9 6.817	335	− 4	581	11	3
	9 7.637	340	− 3	394	6	2
	9 8.633	341	− 4	412	5	2
	9 9.810	342	− 4	436	1	1
	9 10.649	343	− 4	436	1	1
	9 11.649	344	− 4	388	1	1
	9 12.657	343	− 5	388	1	1
	9 13.701	341	− 5	388	1	1
	9 14.659	345	− 7	412	1	1
	9 15.652	345	− 7	485	1	1
10771	9 6.817	352	−13	12	1	1
	9 8.633	350	−13	12	3	1
	9 9.810	346	−12	73	6	1
	9 10.649	347	−13	36	4	2
	9 11.649	346	−13	24	4	1
	9 12.657	348	−12	12	1	1
10772	9 7.637	325	− 5	24	5	1
	9 8.633	325	− 4	12	1	1
	9 11.649	329	− 6	36	3	1
	9 12.657	331	− 7	18	3	2
10773	9 6.817	308	+ 2	97	1	1
	9 7.637	308	+ 2	73	1	1
	9 8.633	308	+ 2	48	1	1
	9 9.810	308	+ 2	61	1	1
	9 10.649	309	+ 2	48	1	1
	9 11.649	308	+ 2	48	1	1
10774	9 8.633	284	+18	12	2	1
	9 9.810	283	+17	121	3	2
	9 10.649	285	+18	89	3	2
	9 11.649	287	+18	73	1	1
	9 12.657	287	+18	61	1	1
	9 13.701	287	+18	48	3	1
	9 14.659	287	+18	36	2	1
	9 15.652	287	+18	24	2	1
	9 16.613	290	+19	24	2	1
	9 17.625	290	+19	24	2	1
10775	9 8.633	279	+ 6	339	2	2
	9 9.810	275	+ 8	727	7	4
	9 10.649	277	+ 8	1175	16	7
	9 11.649	275	+ 8	1078	13	8
	9 12.657	272	+ 9	848	17	8
	9 13.701	274	+ 8	607	17	6
	9 14.659	274	+ 7	605	39	8
	9 15.652	273	+ 7	642	44	4
	9 16.613	274	+ 8	581	57	6
	9 17.625	277	+ 7	527	48	6
	9 18.693	277	+ 5	423	14	6
	9 19.649	272	+ 6	109	3	2
	9 20.638	268	+ 6	61	2	1
10776	9 11.649	246	−17	97	1	1
	9 12.657	246	−16	48	1	1
10777	9 12.657	255	−12	303	3	2
	9 13.701	256	−12	260	8	3
	9 14.659	255	−12	61	9	1
	9 15.652	254	−12	12	8	1
	9 16.613	255	−13	24	12	1
10778	9 12.657	229	+ 9	16	2	1
	9 13.701	228	+13	36	2	2
	9 14.659	233	+10	36	1	1
	9 15.652	229	+11	72	6	2
	9 16.613	233	+ 9	24	1	1
	9 17.625	234	+ 9	12	1	1

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
	9 18.693	232	+ 9	24	1	1
	9 19.649	233	+ 8	24	1	1
10779	9 12.657	261	−18	36	2	1
	9 13.701	259	−18	134	5	2
	9 14.659	260	−19	84	8	3
	9 15.652	260	−19	85	9	2
	9 16.613	263	−20	48	5	2
	9 17.625	267	−20	16	1	1
	9 18.693	265	−21	24	1	1
	9 19.649	265	−21	12	1	1
10780	9 12.657	236	−22	24	2	1
	9 13.701	235	−18	12	2	1
10781	9 14.659	203	+13	24	4	1
	9 15.652	203	+13	146	10	2
	9 16.613	204	+14	266	8	3
	9 17.625	204	+14	246	27	3
	9 18.693	204	+12	327	29	3
	9 19.649	204	+11	569	15	5
	9 20.638	204	+10	556	8	4
	9 21.650	204	+ 9	744	16	5
	9 22.642	205	+10	629	12	4
	9 23.653	204	+12	557	11	2
	9 24.636	207	+11	533	2	2
	9 25.644	205	+10	436	2	1
10784	9 18.693	169	+14	218	10	3
	9 19.649	170	+14	412	12	4
	9 20.638	171	+14	618	9	4
	9 21.650	170	+15	485	5	2
	9 22.642	171	+14	424	12	4
	9 23.653	172	+15	364	11	3
	9 24.636	172	+16	352	5	2
	9 25.644	174	+16	448	8	3
	9 26.628	173	+16	436	8	2
	9 27.724	173	+13	484	3	3
	9 28.650	181	+15	339	1	1
10785	9 21.650	170	+ 6	84	5	2
	9 22.642	170	+ 6	122	6	2
	9 23.653	172	+ 6	60	3	2
	9 24.636	173	+ 7	72	3	2
	9 25.644	175	+ 6	28	2	2
	9 26.628	175	+ 7	60	4	2
	9 27.724	175	+ 6	48	2	1
	9 28.650	176	+ 6	48	1	1
10786	9 18.693	149	+ 9	339	5	2
	9 19.649	152	+ 9	302	5	3
	9 20.638	153	+ 9	242	6	3
	9 21.650	152	+ 8	206	7	3
	9 22.642	155	+ 9	260	18	4
	9 23.653	155	+ 8	145	31	3
	9 24.636	160	+ 7	194	16	1
	9 25.644	160	+ 7	242	22	2
	9 26.628	160	+ 7	291	13	2
	9 27.724	161	+ 6	158	8	3
	^ 28.650	164	+ 7	241	4	3

No.	Date	L	φ	A	s	p
		°	°			
10787	9 21.650	233	−13	96	2	2
	9 22.642	233	−12	121	6	2
	9 23.653	236	−11	73	1	1
10788	9 22.642	93	+ 7	24	4	1
	9 23.653	93	+10	48	7	2
	9 24.636	91	+ 8	12	1	1
	9 25.644	93	+ 7	24	4	2
10789	9 26.628	46	− 8	36	1	1
	9 27.724	45	− 9	24	1	1
10790	9 27.724	96	+ 8	16	2	1
10791	9 27.724	74	+21	60	3	2
	9 28.650	75	+21	72	17	2
	9 29.701	78	+21	48	2	1
	9 30.791	78	+21	24	1	1
	10 1.658	78	+20	40	10	2
	10 2.647	79	+20	24	1	1
	10 3.642	81	+20	24	1	1
	10 4.722	81	+19	16	1	1
10792	9 30.819	62	+ 9	109	4	2
	10 1.658	63	+ 9	206	11	2
	10 2.647	63	+ 9	319	25	3
	10 3.642	64	+ 9	339	14	2
	10 4.722	64	+ 8	242	9	2
	10 5.665	65	+ 7	145	8	1
	10 6.628	64	+ 7	48	1	1
10793	9 30.819	344	− 3	194	1	1
	10 1.658	345	− 3	291	1	1
	10 2.647	346	− 3	291	1	1
	10 3.642	347	− 4	315	1	1
	10 4.722	346	− 4	242	1	1
	10 5.665	346	− 4	242	1	1
	10 6.628	347	− 4	242	1	1
	10 7.624	348	− 4	218	1	1
	10 8.649	347	− 5	218	1	1
	10 9.696	347	− 5	218	1	1
	10 10.734	347	− 5	218	1	1
	10 11.775	347	− 5	218	1	1
	10 12.662	348	− 6	194	1	1
10794	10 8.649	278	+11	12	1	1
	10 9.696	278	+11	16	3	1
10795	10 8.649	249	+ 9	48	1	1
	10 9.696	247	+ 9	188	31	4
	10 10.734	247	+ 9	170	16	2
	10 11.775	246	+ 9	291	10	2
	10 12.662	246	+10	109	9	2
	10 13.649	246	+10	48	6	2
	10 14.754	246	+ 9	48	3	3
	10 15.647	250	+ 9	24	7	1

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
10796	10 8.649	246	−10	582	1	1
	10 9.696	245	−10	521	6	2
	10 10.734	244	− 9	593	10	4
	10 11.775	247	− 9	606	7	2
	10 12.662	246	−10	606	4	2
	10 13.649	245	−10	655	4	2
	10 14.754	242	−10	643	3	2
	10 15.647	248	−10	727	5	2
	10 16.647	247	−12	678	8	2
	10 17.658	246	−11	703	10	2
	10 18.642	246	−10	752	4	2
	10 19.656	247	− 9	752	6	3
	10 20.624	250	− 9	291	1	1
10797	10 8.649	241	−15	24	1	1
	10 9.696	241	−15	97	6	2
	10 10.734	244	−15	24	2	1
	10 11.775	242	−15	230	7	3
	10 12.662	240	−16	170	10	2
	10 13.649	241	−15	146	12	2
	10 14.754	243	−15	84	4	2
	10 15.647	244	−17	193	20	2
	10 16.647	248	−17	254	17	3
	10 17.658	247	−16	278	8	4
	10 18.642	249	−16	290	7	2
	10 19.656	253	−16	291	7	2
10798	10 9.696	326	− 4	12	2	1
	10 10.734	328	− 4	6	1	1
	10 11.775	329	− 3	36	2	1
	10 12.662	329	− 5	96	2	2
	10 13.649	328	− 4	48	1	1
10799	10 9.696	293	+ 4	48	12	1
	10 10.734	292	+ 4	12	3	1
10800	10 10.734	214	+11	242	1	1
	10 11.775	215	+11	315	1	1
	10 12.662	215	+11	242	1	1
	10 13.649	215	+12	218	1	1
	10 14.754	216	+11	218	1	1
	10 15.647	217	+11	206	1	1
	10 16.647	216	+11	254	5	2
	10 17.658	216	+11	194	1	1
	10 18.642	215	+11	206	2	2
	10 19.656	217	+11	194	1	1
	10 20.624	217	+11	194	1	1
	10 21.628	217	+11	194	1	1
	10 22.618	217	+11	194	1	1
10801	10 11.775	294	−10	16	3	1
10803	10 19.656	192	+ 9	279	23	4
	10 20.624	192	+ 8	254	21	4
	10 21.628	193	+ 9	170	15	3
	10 22.618	194	+ 9	173	8	4
	10 23.656	201	+ 7	60	2	2
10804	10 18.642	121	+17	109	2	2
	10 19.656	120	+17	73	4	1
10805	10 20.624	157	+10	24	5	1
10807	10 23.656	65	+ 7	6	2	1
	10 24.665	65	+ 7	84	2	2
	10 25.651	65	+ 7	36	3	2
	10 26.674	68	+ 7	18	2	2
	10 27.658	71	+ 6	12	2	1
10808	10 25.651	29	−12	12	1	1
	10 26.674	28	−12	12	1	1
	10 27.658	27	−12	48	5	2
10809	10 25.651	10	− 9	242	1	1
	10 26.674	8	− 9	484	5	2
	10 27.658	10	−11	1044	16	7
	10 28.789	6	−11	968	22	7
	10 29.660	8	−10	835	22	8
	10 30.665	8	− 9	677	32	8
	10 31.655	8	−11	648	24	8
	11 1.658	11	− 9	605	34	6
	11 2.660	11	−10	442	44	7
	11 3.735	13	−10	291	7	4
	11 4.685	12	−11	217	5	3
	11 5.651	10	−12	290	22	4
	11 6.648	1	−13	157	2	2
10810	10 26.674	95	+ 8	24	2	2
	10 27.658	98	+ 8	12	1	1
	10 28.789	97	+ 7	109	11	2
	10 29.660	98	+ 8	134	8	2
	10 30.665	98	+ 8	218	9	2
	10 31.655	101	+ 8	145	2	2
10811	10 26.674	4	+11	290	4	2
	10 27.658	7	+10	194	1	1
	10 28.789	6	+11	145	1	1
	10 29.660	5	+11	170	4	2
	10 30.665	5	+13	121	5	2
	10 31.655	7	+11	73	1	1
	11 1.658	6	+12	73	1	1
	11 2.660	6	+12	73	1	1
	11 3.735	6	+12	61	2	1
	11 4.685	8	+12	48	1	1
	11 5.651	8	+12	36	1	1
	11 6.648	8	+12	24	1	1
10812	10 27.658	83	+18	12	2	1
	10 28.789	80	+19	12	5	1
10813	10 27.658	348	− 6	145	1	1
	10 28.789	347	− 6	97	1	1
	10 29.660	348	− 6	61	1	1
	10 30.665	348	− 6	48	1	1
	10 31.655	348	− 6	48	1	1
	11 1.658	349	− 5	12	1	1
10814	11 1.658	53	+12	48	7	2
	11 2.660	54	+12	40	4	2
	11 3.735	55	+11	12	1	1

TABLE III a

No.	Date		L	φ	A	s	p
			°	°			
10815	11	2.660	348	+19	6	1	1
10816	11	4.685	265	− 9	48	1	1
	11	5.651	265	−10	12	1	1
10817	11	3.735	253	−13	388	1	1
	11	4.685	255	−11	533	1	1
	11	5.651	254	−12	533	1	1
	11	6.648	255	−12	585	1	1
	11	7.785	255	−12	585	1	1
	11	8.705	257	−13	657	5	3
	11	9.645	255	−15	508	11	4
	11	10.708	255	−13	484	8	2
	11	11.644	255	−13	464	12	3
	11	12.699	255	−13	339	3	1
	11	13.660	256	−12	218	6	3
	11	14.782	258	−13	194	1	1
	11	15.647	259	−13	194	1	1
10818	11	4.685	246	− 6	327	2	2
	11	5.651	243	− 6	594	7	4
	11	6.648	243	− 6	582	6	3
	11	7.785	243	− 6	533	4	3
	11	8.705	246	− 6	472	12	4
	11	9.645	244	− 6	485	15	4
	11	10.708	247	− 7	472	8	2
	11	11.644	248	− 8	399	12	3
	11	12.699	249	− 9	291	4	1
	11	13.660	249	− 9	291	3	1
	11	14.782	249	−10	303	6	2
	11	15.647	250	− 8	291	3	1
	11	16.705	251	− 8	242	2	1
10820	11	8.705	262	+11	24	2	2
10821	11	8.705	229	+11	12	2	1
	11	9.645	229	+ 9	30	7	3
	11	10.708	232	+ 8	168	6	4
	11	11.644	231	+ 8	60	4	4
	11	12.699	231	+ 9	108	6	3
	11	13.660	229	+ 8	48	8	1
10822	11	9.645	218	− 8	16	5	1
	11	10.708	217	− 8	6	2	1
	11	11.644	219	− 9	12	3	1
10823	11	11.644	280	+17	24	4	1
	11	12.699	279	+17	73	1	1
	11	13.660	279	+17	24	3	1
10824	11	11.644	220	+10	12	4	1
10825	11	14.782	222	− 5	109	8	2
	11	15.647	223	− 4	109	4	2
	11	16.705	224	− 4	97	2	2
	11	17.713	221	− 3	12	1	1
10826	11	14.782	203	− 2	16	1	1
	11	15.647	203	− 2	12	1	1
10827	11	15.647	149	+ 7	24	3	1
	11	16.705	150	+ 7	36	1	1
	11	17.713	150	+ 7	60	4	2
	11	18.819	150	+ 7	60	2	2
	11	19.645	151	+ 7	73	3	2
	11	20.698	150	+ 6	24	5	1
10828	11	16.705	92	+17	218	1	1
	11	17.713	85	+19	291	5	2
	11	18.819	84	+18	158	2	2
	11	19.645	85	+18	169	2	2
	11	20.698	89	+17	97	1	1
	11	21.645	90	+17	121	2	2
	11	23.635	91	+17	97	4	2
	11	24.666	94	+17	60	5	2
	11	25.692	92	+17	36	1	1
10829	11	17.713	104	+ 7	12	1	1
	11	18.819	105	+ 7	6	1	1
	11	23.635	106	+ 3	36	2	1
	11	25.692	107	+ 3	16	2	1
	11	26.669	108	+ 3	12	1	1
10830	11	17.713	99	+10	60	3	2
	11	18.819	99	+ 9	96	2	2
	11	19.645	99	+10	121	2	2
	11	20.698	98	+ 9	266	4	3
	11	21.645	103	+ 8	194	1	1
	11	23.635	103	+ 8	145	1	1
	11	24.666	102	+ 8	125	8	2
	11	25.692	101	+ 8	145	1	1
	11	26.669	102	+ 8	145	1	1
	11	27.776	100	+ 8	145	1	1
10831	11	17.713	74	+21	194	2	1
	11	18.819	75	+21	194	1	1
	11	19.645	76	+21	207	1	1
	11	20.698	74	+21	207	1	1
	11	21.645	75	+21	207	1	1
	11	23.635	75	+21	207	1	1
	11	24.666	75	+21	194	1	1
	11	25.692	76	+21	170	1	1
	11	26.669	74	+21	194	1	1
	11	27.776	73	+21	145	1	1
	11	28.719	75	+21	145	1	1
	11	29.653	74	+21	194	1	1
10832	11	23.635	0	+ 9	121	1	1
	11	24.666	1	+10	181	3	2
	11	25.692	4	+11	169	8	3
	11	26.669	2	+11	131	5	2
	11	27.776	3	+ 9	145	4	3
	11	28.719	4	+10	113	5	3
	11	29.653	2	+10	61	1	1
	11	30.649	5	+ 9	169	4	3
	12	1.623	5	+10	96	4	2

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
	12 2.628	3	+10	60	7	2
	12 3.738	4	+ 9	61	2	1
	12 4.700	6	+ 8	533	3	2
10833	11 24.666	75	−14	60	3	2
	11 25.692	75	−15	36	1	1
	11 26.669	76	−16	12	1	1
10834	11 25.692	335	+13	193	7	2
	11 26.669	337	+11	300	5	3
	11 27.776	337	+10	182	6	2
	11 28.719	339	+10	85	11	2
	11 29.653	340	+10	109	3	1
	11 30.649	340	+10	48	2	1
	12 1.623	340	+10	24	5	2
10835	11 26.669	73	+ 5	84	5	2
	11 27.776	73	+ 5	218	2	2
	11 28.719	74	+ 6	654	13	4
	11 29.653	71	+ 5	533	4	3
10836	11 27.776	312	+13	12	2	1
	11 28.719	314	+14	12	1	1
10837	11 29.653	293	+ 6	96	2	2
	11 30.649	296	+ 5	61	2	1
10838	12 1.623	260	−15	40	5	2
	12 2.628	253	−14	42	2	2
	12 3.738	255	−14	48	1	1
	12 4.700	254	−15	24	2	1
10839	12 5.762	197	− 5	61	5	1
	12 6.653	197	− 5	48	1	1
	12 7.685	198	− 5	48	4	1
	12 8.742	199	− 5	48	4	1
10840	12 5.762	248	− 6	24	2	1
	12 7.685	248	− 9	16	2	1
	12 8.742	248	− 8	24	1	1
10841	12 6.653	286	−13	96	9	3
	12 7.685	287	−14	158	6	2
	12 8.742	289	−11	169	2	2
	12 9.733	290	−11	145	2	2
	12 10.715	294	−11	97	1	1
10842	12 7.685	272	−14	60	2	2
	12 8.742	273	−13	24	1	1
10843	12 7.685	253	−14	24	1	1
	12 8.742	252	−14	16	1	1
10845	12 8.742	227	− 5	60	3	2
	12 13.656	230	− 5	85	3	2
	12 14.697	230	− 5	109	2	2
10846	12 10.715	214	+ 7	169	8	3
	12 11.667	215	+ 8	134	3	2
	12 12.645	217	+ 7	61	1	1
	12 13.656	218	+ 7	61	1	1
	12 14.697	219	+ 7	36	1	1
	12 15.624	220	+ 7	12	1	1
10848	12 14.697	79	+ 8	291	2	1
	12 15.624	80	+12	113	12	2
	12 16.652	82	+ 9	97	13	2
	12 17.724	81	+10	85	10	2
	12 19.653	87	+ 9	72	8	2
	12 20.737	88	+ 9	60	12	2
	12 23.871	89	+ 8	84	2	2
	12 24.651	89	+10	85	8	2
10849	12 15.624	73	+11	703	14	3
	12 16.652	74	+ 9	897	23	5
	12 17.724	71	+ 8	908	6	6
	12 19.653	76	+ 9	1115	33	5
	12 20.737	75	+ 8	1212	16	4
	12 21.681	75	+10	1405	18	4
	12 22.710	73	+ 9	1259	13	4
	12 23.871	73	+ 8	1163	21	5
	12 24.651	72	+10	1163	18	5
	12 26.695	75	+ 9	652	4	3
10850	12 15.624	199	− 4	40	4	2
	12 16.652	201	− 4	12	1	1
10851	12 15.624	128	− 5	16	7	1
10852	12 16.652	76	−12	6	1	1
	12 17.724	77	−12	109	7	2
	12 19.653	81	−12	122	6	2
	12 20.737	82	−12	72	3	2
	12 21.681	86	−12	48	2	1
	12 22.710	86	−12	48	1	1
10853	12 20.737	102	+ 3	88	7	3
	12 21.681	100	+ 5	109	5	2
	12 22.710	100	+ 5	181	5	3
	12 23.871	101	+ 4	73	4	2
	12 24.651	100	+ 4	85	5	2
10854	12 23.871	59	+ 9	48	2	1
10855	12 26.695	69	+13	145	2	1
10856	12 26.695	301	+ 3	61	3	1
	12 27.686	299	+ 3	497	16	4
	12 28.651	298	+ 3	775	5	4
	12 29.634	299	+ 3	629	10	4
	12 31.691	300	+ 3	521	23	3
	1 1.762	302	+ 2	374	12	5
	1 2.738	303	+ 1	254	5	3
	1 3.699	303	+ 3	254	5	2
	1 4.649	305	+ 1	206	1	1
	1 5.754	305	+ 1	194	1	1

TABLE III a

No.	Date	L	φ	A	s	p
		°	°			
10857	12 31.691	285	+15	158	4	2
	1 1.762	268	+14	133	7	3
	1 2.738	282	+14	97	4	1
	1 3.699	284	+15	84	2	2

No.	Date	L	φ	A	s	p
		°	°			
10859	12 31.691	228	−20	121	6	2
	1 1.762	228	−20	96	5	2
	1 2.738	225	−21	48	3	1

TABLE III b

Date	L	φ	A	s	p
	°	°			
1 4.678	30	−13	6	5	1
1 15.696	264	−15	12	3	1
1 24.774	129	+ 9	12	1	1
2 8.660	275	− 4	24	2	2
2 25.731	348	−13	24	5	1
3 6.660	238	+10	24	5	1
4 1.851	15	+ 5	16	2	1
4 3.678	298	−16	61	1	1
4 4.661	266	−18	36	5	1
4 5.665	291	−10	12	1	1
4 18.631	92	− 8	97	6	1
4 19.724	90	− 8	36	4	1
4 20.651	91	−10	48	4	1
4 29.651	237	− 7	6	1	1
5 7.710	195	+ 6	24	6	2
5 8.653	169	−11	6	1	1

Date	L	φ	A	s	p
	°	°			
5 14.648	50	−14	6	1	1
5 14.648	53	−17	12	1	1
5 15.651	30	−11	12	2	1
8 3.788	102	+32	6	2	1
8 4.649	91	+19	6	4	1
8 12.715	14	+ 4	6	1	1
8 16.651	342	− 7	12	2	1
8 19.708	247	−11	24	3	1
8 27.585	168	+14	12	1	1
9 27.724	108	+29	12	3	1
10 17.658	253	−19	12	2	1
10 18.642	180	+ 7	24	2	2
10 28.789	4	+ 7	6	1	1
10 29.660	53	+10	6	3	1
11 17.713	86	+11	12	1	1

TABLE IV

Group	Recurrence of				
10575	10558				
10585	10569				
10610	10588				
10616	10605				
10629	10613				
10638	10623				
10639	10616	10605			
10662	10639	10616	10605		
10671	10644				
10675	10646				
10676	10649				
10690	10662	10639	10616	10605	
10692	10671	10644			
10693	10677				
10699	10678				
10700	10679				
10706	10690	10662	10639	10616	10605

Group	Recurrence of		
10708	10691		
10716	10692	10671	10644
10741	10715		
10760	10757		
10763	10742		
10764	10741	10715	
10790	10788		
10793	10769		
10796	10787		
10800	10781		
10806	10804		
10813	10793	10769	
10817	10797		
10818	10796	10787	
10838	10817	10797	
10849	10835		

Errata

Circular	Page	Date	Item	Line	For	Read
9	3	Jan. 9, 1949	A	4	42	242
13	7	Jan. 9, 1949	Total A		1325	1125
	9	Sept. 4, 1949	r		305	205
	9	Sept. 4, 1949	s		165	65
	9	Sept. 22, 1949	g		0	10
	9	Oct. 19, 1949	r		120	48
	9	Nov. 20, 1949	A		2248	2548
	10	Oct., 1949	Mean r		167.4	165.5
15	2	Jan. 7, 1950	Number	8	10151	10181
	5	Jan., 1950	Monthly mean r		120.0	122.0
17	2	Mar. 7, 1950	φ	4	-21	+21
19	3	Apr. 21, 1950	Number	11	10308	10305
21	2	May 3, 1950	Number	11	10324	10321
	4	May 21, 1950	Total s		29	30
	5	May 28, 1950	Number	10	10651	10351
	7	June 22, 1950	Number	5	10684	10384
	8	June, 1950	Monthly mean r		87.5	87.2
22	2	July 7, 1950	Number	7	10303	10403
	3	July 18, 1950	Number	6	10414	10412
	3	July 22, 1950	L_o		40	49
	4	July 29, 1950	Number	10	10433	10423
	4	July, 1950	No. of days		28	29
23	3	Aug. 17, 1950	φ	8	+18	+8
	4	Aug. 23, 1950	Number	13	10449	10447
24	3	Sept. 22, 1950	Δl	3	-17	+17
25	2	Oct. 9, 1950	Total s		47	45
	4	Oct. 29, 1950	Total A		1077	980
26	4	Nov. 29, 1950	Total A		1771	1271
	4	Nov., 1950	No. of days		30	29

Errata

Circular	Page	Date	Item	Line	For	Read
28	2	Dec. 1, 1950	Total *A*		1308	1309
	3	Dec. 10, 1950	Δl	8	- 5	+5
	3	Dec. 10, 1950	Δl	9	-8	+8
	4	Dec. 18, 1950	Quality		-------	W-3
	4	Dec. 19, 1950	Quality		-------	W-3
	4	Dec. 21, 1950	Quality		-------	N-3
	4	Dec. 22, 1950	Quality		-------	N-1
	4	Dec. 23, 1950	Quality		-------	W-3
29	2	Jan. 13, 1951	Quality		-------	N-2
	6	Feb. 18, 1951	Number	4	10604	10601
31	2	Apr. 5, 1951	Number	4	10615	10630
32	3	May 17, 1951	Δl	3	-12	-61
	4	May 26, 1951	Number	13	10371	10671
33	2	June 3, 1951	Quality		-------	N-2
35	6	Dec. 19, 1951	*s*	9	4	5

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